

I claim:

1. A method of removing contaminants from a double-ended arc discharge tube, the method comprising the steps of:

providing an electrode and at least one capillary channel through each end of a double-ended arc discharge tube, the ends of the arc discharge tube being sealed closed except at the capillary channels; and

introducing a flushing gas into the arc discharge tube through one capillary channel at one end of the arc discharge tube and removing the flushing gas and contaminants from the arc discharge tube through another capillary channel at another end of the arc discharge tube.

2. The method of claim 1, wherein the capillary channels are round and are formed with a press that has a corresponding round mold pattern.

3. A method of making a double-ended arc discharge tube, comprising the steps of:

providing a cylinder of light transmissive material;

inserting electrodes into each end of the cylinder, each electrode having a foil portion;

pressing the light transmissive material onto the foil portions of the electrodes at respective ends of the cylinder to seal the electrodes and form an unfilled double-ended arc discharge tube, while at each of the pressed ends leaving open at least one capillary channel;

removing contaminants from the tube by flushing a flushing gas lengthwise through the tube and through the capillary channels at both ends of the tube;

introducing a fill gas and lamp chemicals into the tube using at least one of the capillary channels; and

closing the capillary channels.

4. The method of claim 3, wherein the step of removing contaminants comprises the step of pumping the flushing gas into the capillary channels at one end of the tube.

5. The method of claim 3, wherein the step of removing contaminants comprises the step of drawing the flushing gas into the capillary channels at one end of the tube by applying a vacuum at the capillary channels at the other end of the tube.

6. The method of claim 3, wherein each end of the tube has two of the capillary channels.

7. A method of making a double-ended arc discharge tube, comprising the steps of:

cutting a quartz tube from a quartz cylinder;

positioning a first electrical in-lead in a first end of the cut quartz tube;

heating the first end of the cut quartz tube;

pinching the first end of the quartz tube to capture the first in-lead using press feet that have a recess that forms a first capillary channel in the pinched first end of the quartz tube;

positioning a second electrical in-lead in a second end of the cut quartz tube;

heating the second end of the cut quartz tube;

pinching the second end of the quartz tube to capture the second in-lead using press feet that have a recess that forms a second capillary channel in the pinched second end of the quartz tube;

introducing a flushing gas into the arc discharge tube through one of the first and second capillary channels and removing the flushing gas and contaminants from the arc discharge tube through the other of the first and second capillary channels;

introducing a fill gas and lamp chemicals into the arc discharge tube through at least one of the first and second capillary channels; and

closing the first and second capillary channels.

8. A double-ended arc discharge tube that, during manufacture, has a sealed electrode and an open capillary channel at each end of the arc discharge tube.

9. The tube of claim 8, wherein each end of the arc discharge tube has two of said capillary channels.